

CLAIMS

1. An imaging lens system for forming an optical image of an object on a light receiving surface of a solid-state image sensor,
5 comprising, in order from an object side:

an aperture diaphragm;

a first lens element having a positive optical power and a convex surface on an image side;

a second lens element having a negative optical power and
10 being a meniscus lens whose object side has a concave shape; and

a third lens element having a positive optical power and being a meniscus lens whose object side has a convex shape, wherein

following conditional expressions are satisfied:

$$1.9 < |f_d/f_{2d}| < 3.5$$

15 $0.9 < |f_d/f_{3d}| < 2.0$

$$-2.5 < (r_{201}+r_{202})/(r_{201}-r_{202}) < -1.4$$

$$-1.7 < (r_{301}+r_{302})/(r_{301}-r_{302}) < -1.0$$

wherein,

f_d is a focal length of an entire lens system to d-line (mm),

20 f_{2d} is a focal length of the second lens element to the d-line (mm),

f_{3d} is a focal length of the third lens element to the d-line (mm),

r_{201} is a radius of curvature of an object side surface of
25 the second lens element (mm),

r_{202} is a radius of curvature of an image side surface of the second lens element (mm),

r_{301} is a radius of curvature of an object side surface of the third lens element (mm), and

5 r_{302} is a radius of curvature of an image side surface of the third lens element (mm).

2. The imaging lens system according to claim 1, wherein at least one of the first lens element, the second lens element
10 and the third lens element has aspherical surfaces on both faces.

3. The imaging lens system according to claim 1, wherein following conditional expressions are satisfied:

$$70 < 2\omega d < 85$$

15 $1.4 < T/fd < 2.0$

wherein,

ωd is a half view angle of the entire lens system to the d-line (unit: in degrees), and

T is an entire length between an object side surface of the
20 first lens element and an image plane (mm).

4. The imaging lens system according to claim 1, wherein following conditional expressions are satisfied:

$$1.8 < |fd/fld| < 2.2$$

25 $0.5 < (r_{101} + r_{102}) / (r_{101} - r_{102}) < 1.0$

wherein,

f1d is a focal length of the first lens element to the d-line (mm),

r101 is a radius of curvature of the object side surface of the first lens element (mm), and

r102 is a radius of curvature of an image side surface of the first lens element (mm).

5. The imaging lens system according to claim 1, wherein a following conditional expression is satisfied:

$$3.3 < |fd \times (Nd2 - 1) / r_{201}| < 4.5$$

wherein,

Nd2 is a refractive index of the second lens element to the d-line.

15

6. The imaging lens system according to claim 1, wherein the second lens element and the third lens element are formed from a synthetic resin material, and satisfy following conditional expressions:

20 $25 < V2d < 35$

$$50 < V3d < 60$$

wherein,

V2d is an Abbe number of the second lens element, and

V3d is an Abbe number of the third lens element.

25

7. The imaging lens according to claim 1, wherein the first lens element is formed by a glass material, and satisfy a following conditional expression:

$$50 < V_{1d} < 65$$

5 wherein,

V_{1d} is an Abbe number of the first lens element.

8. An imaging unit operable to convert an optical image of an object to an electrical image signal for output, comprising:

10 an imaging lens system for forming the optical image of the object; and

a solid-state image sensor for receiving the image formed by the imaging lens system, and converting the image to the electrical image signal, wherein

15 the imaging lens system is an imaging lens system according to any of claims 1 to 7.

9. An imaging unit operable to convert an optical image of an object to an electrical image signal for output, comprising:

20 an imaging lens system for forming the optical image of the object; and

a solid-state image sensor for receiving the image formed by the imaging lens system, and converting the image to the electrical image signal, wherein

25 the imaging lens system comprises, in order from an object

side:

an aperture diaphragm for setting a pupil;
a first lens element having a positive optical power;
a first cut member for cutting an ambient light;
5 a second lens element having a negative optical power;
a second cut member for cutting the ambient light;
a third lens element having a positive optical power;

and

a third cut member for cutting the ambient light.

10

10. The imaging unit according to any of claims 8 and 9,
wherein an optical low-pass filter is provided on an object side
with respect to the solid-state image sensor.